

AIR WAR COLLEGE

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**CHINA'S MILITARY MODERNIZATION; AN ANALYSIS OF**

**THE PLA IMPROVED LOGISTIC CAPABILITY**

By

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## **Biography**

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## Abstract

China is modernizing the People's Liberation Army (Chinese Military Forces) at an expeditive rate in order to meet its strategic objectives. The PLA's logistics are modernizing, a benefactor of China's recent military surge. Logistics are the linchpin of the PLA's growing strength and capability. An analysis of the PLA's logistic modernization provides insight in the PLA's strength and capability. This research will focus on the PLA logistics modernization of three categories; Sustainment Support (support, capacity, and equipment), Information Management (organizations, systems, and technical data), and Training Support (military exercises, non-military exercises, and humanitarian operations). To know the PLA logistics is to identify their weaknesses. This research will attempt to analyze current PLA logistic weakness and strengths, and how their logistical weaknesses are being mitigated. A continue analysis of their logistical tail and sustainment doctrine will provide strong indicators of the PLA near term and future capability.

## Introduction

As China expands their interest to attain and sustain their economic power, the People's Liberation Army (PLA), China's military, must modernize rapidly in order to meet the People's Republic of China's (PRC) objectives. The PLA must have an ability to protect their national interest if it's for no other reason than to ensure fair and safe economic trade from their view point. The PLA's dramatic modernizations begin modestly during the 1980s but gained momentum in the 1990s after observations of America's success in the first Gulf War. China's leadership quickly realized the technological advancement of the West's military capability. The PRC was to shift transformation gears into high. China has a desire to develop and modernize the PLA at an expeditive pace. Fortunately for China's PLA, their economic boom has sustained their transformation. The initial, modest transformation of the PLA has surged in the last decade, increasing on a grand scale with no near term expectation of slowing down.

Modern logistics are the linchpin of the PLA's growing strength and capability. This research attempts to examine the current PLA logistic issues from a US Army's logistician perspective. It intends to address the following questions: What is the current PLA logistic weakness? How is the PLA addressing their logistical weakness and then mitigating these weaknesses? What will be the PLA future strengths as result of their logistic improvements? Finally' as a result of China's increased logistical capability, how far can the PLA project their power within Southeast Asia?

Logistics are complex and military logistics are intertwined with the civilian sector. Because of limitation in size and time of this academic paper, I will narrow the focus of my PLA research of logistics modernization to three categories: (1) sustainment support (support, capacity, and equipment), (2) information management (organizations, systems, and technical data), and (3)

training support (military exercises, non-military exercises, and humanitarian operations).

Although these categories are somewhat broad, analysis of the PLA logistics within this structure will give an indication of the modernization of the PLA logistical capability.

The PLA's modern military transformation is impressive and exciting yet concerning. Their modernizations of logistics in the PLA as well in the Chinese private sector are improving their present capability in the areas that Chinese analysis experts have identified as traditional weaknesses. Disappearing is the PLA's preponderance of an inefficient logistic infrastructure that was once redundant, manpower intensive, and lacked the latest technology advancement in logistic systems. Military planners must acknowledge because of the improved PLA logistics, China has an increased power projection capability, although limited for the near term. This paper will describe the modernization of the PLA in terms of full spectrum logistics and then look at the methods of how sustainment enablers are employed to support the evolving strategic strategy of China. These lessons learned of the PLA logistics transformation will provide some insight into the PLA power projection goals and future strategic goals. This paper concludes with recommendations for further study with an understanding of PLA logistical capabilities in order to plan logistical countermeasures for future operations of strategic interest of the American DIME (Diplomacy, Information, Military, and Economic). An appreciation for PLA modern logistics development within such a short time span has many lessons for logisticians regardless of nationality. Their logistics modern transformation has its roots in the Chinese military strategy culture which must be discussed.

## **Chinese Military Strategy**

The heartland of China has been the saving grace against invaders, always allowing the Chinese to withdraw inward to prevent defeat. This Chinese strategic culture, infused by a

defensive attitude is shaped by geography. Over the centuries, this ability to find safety within China has helped develop a Chinese cultural characteristic described as “inward thinking” or “inward solution.” The Chinese as a result, have a natural gravitation to look inwards for their solutions. As Chinese influence on the world stage expands in the modern era, it’s important to understand this cultural aspect and the impact it has on their military strategy. Their culture and way of thinking is different from the Western mind set. Mao Zedong’s doctrinal principle of “active defense” defined as “offensive defensive through decisive engagements” is rooted in this culture mind set.<sup>1</sup> Mao demanded decisive offensive operations within a defensive strategy; with emphasis on gaining and retaining the initiative.<sup>2</sup> This strategic culture has continued in the modern era of the twenty first century, focused not only internally but applied to the peripherals of China as well. Recently, Hu Jintao, then President of China stated while addressing the 18th National Congress of the Communist Party of China (CPC), stated that China should implement a military strategy of active defense for the new period; emphasizing that China pursue a national defense policy that is defensive in nature.<sup>3</sup> Their defensive posture is an excellent diplomacy skill of avoidance which allows time to pursue all options of political discourse, comprise, and modernization of the PLA, including logistics, which were a central problem in the Mao era.

## **Modernization**

Modern logistics are responsive, lean, efficient, and maintain total visibility of resources. Modern military logistics are flexible, capable of synchronizing and allocating resources to ensure commanders are unencumbered with the freedom of maneuver. Modern logisticians understand the importance of flexibility and being anticipatory of future requirements. Modern technology has allowed logistics to modernize rapidly. The Gulf War taught the Chinese that

their military tactics, techniques, and procedures, including their logistic model was outdated. They quickly saw value in joint operations, especially with sea and air military forces. The use of “smart bombs” and other modern command and control (C2) technologies were superior to anything that PLA could field. At direction of Jiang Zemin, the PLA in 1993 established the *local war under conditions of informatization* concept as official military doctrine.<sup>4</sup>

Informatization is essentially the capitalization of computer technology for command and control (C2) of all modern systems in order to synchronize military operations. China’s leaders view modernization of the PLA as an essential component of their strategy to take advantage of what they perceive to be a “window of strategic opportunity” to advance China’s national development during the first two decades of the 21st century.<sup>5</sup> The PLA has been slowly improving its logistics concepts since the mid-1990s, but it was not until 2002 when Hu Jintao, then General Secretary of the Chinese Communist Party issued an order, to transform PLA logistics, that the rapid renovation really began.<sup>6</sup> In 1991, Jiang Zemin, Chairman Central Military Commission (CMC) and Party General Secretary, included “logistics support” as one of the five major requirements to build-up the Army; he pointed out, “There would be no high combat effectiveness without a strong logistic supply.”<sup>7</sup> Then in 1999 he signed the “PLA Joint Logistics Regulations” which is considered a landmark in transformation of the PLA Logistics System.<sup>8</sup> Jintao promoted the organization of “precision logistics” system that would capitalize on modern technology and scientific organization in order to build a modern logistic management system. Logistics are the tail to any military force and the PLA is no exception.

## **Sustainment Support**

Sustainment Support (support, capacity, and equipment) provides the resources necessary to ensure mission success for any commander. The tail is nothing without sustainment support.

Better equipment, larger and efficient capacity of assets, as well as supportability of both equipment and Soldiers are combat multipliers on the modern battlefield. The Chinese quickly assessed this advantage of the American military forces. The Chinese have purchased military equipment and technology within the world market in order to mitigate short term gaps. At the same time, the Chinese simultaneously advancing their own technology and capability. The Chinese have purchased advanced systems from Russia and Israel in order to reach these goals. The Chinese' ultimate goal is to be totally self-sufficient, capable of having their own technology base and skills set to manufacture anything within their industrial complex of military hardware requirements. The PRC defense industry saw little substantive advancement in the 1980s and during the early 1990s; a continued lack of progress and reform was the most obvious assumptions.<sup>9</sup> However, paradigm shifts can and do occur which catches even experts by surprise.<sup>10</sup> China's sustained efforts, of self-development are now bringing fruition of results within China's defense manufacturing. The economic boom and expansion of manufacturing in China over the last twenty year has given the ability to leap China's industrial forward quickly. An underestimation of changes in China's defense industrial sector that was once viewed as a bloated and sclerotic industrial sector incapable of adaptation is no more; the PRC defense industry has outperformed the expectations of its critics.<sup>11</sup> The shift of manufacturing abroad to China has resulted in the greater diffusion of technology, and has spawned new sources of innovation in China thanks to the technology and skill shifts arising from joint ventures.<sup>12</sup>

The PLA seeks to leverage their civilian expertise, scientific innovation, technology, and logistics resources to develop a joint civil-military logistics capability during peacetime that can support wartime military mobilization.<sup>13</sup> It's a safe assumption that China has been adapting the skills required from private sector manufacturing into a homegrown military manufacturing base.

This manufacturing growth has advanced all sectors of the Chinese industrial base, to include logistical sectors such as distribution, warehousing, and asset visibility. Civilian logistics capabilities are easily transferrable into reliable sustainment operations for military operations. Civilian distribution can be military distribution. Warehouse management of assets is still logistics; regardless if it's managing Apple iPods or PLA uniforms. The PLA is increasingly looking at the civilian logistics sector for ways to enhance military logistics.<sup>14</sup> The civilian sector support to China's military logistics capability has become a key feature of military modernization through peacetime and wartime integration.<sup>15</sup> The infrastructure of warehouses and the experience of operations are increasing their overall military capacity. Additionally, the management of commercial stockage levels and objectives at such grand scales provides skill sets that can be used for strategic logistics, supporting both the PLA and civilian sector. These skill sets are almost identical. It appears that the commercial Chinese logistic operations will improve the PLA logistic capability as a byproduct of commercial modernization.

China's ship building is improving as well, capitalizing on new design technology and modular manufacturing of the commercial sector. The increased commercial ship building, especially of large ships, is beginning to benefit the PLA Navy (PLAN). The PLAN is improving its logistic capacity as well as troop transport amphibious operations. The PLAN now has 51 amphibious and medium landing ships. The PLA has produced two Type 903 replenishment ships, two new large space-support ships, and in 2007 its first dedicated hospital ship was completed.<sup>16</sup> The PLA ship for amphibious force projections is the Type 071 landing platform dock (LPD) amphibious assault ship, PLAN's largest indigenously designed combat ship.<sup>17</sup> The new LPD is capable of caring PLA Marine or Army troops and their respective equipment. This marks a capability of projecting both "hard" and "soft" power from China's

East Asian Littoral.<sup>18</sup> This is an example of modern capability that supports the “active defensive” and “local war” strategy. These ships could be used in any Taiwan Strait conflict or easily be used for any exercise for peacekeeping or humanitarian missions.<sup>19</sup> The Type 071 could carry 500-800 troops plus twenty-five to fifty combat vehicles. They plan to build between three to six of the Type 071 LPD.<sup>20</sup> What is critical to understand is the Chinese ship industry has the “know how” to build these ships relatively fast.<sup>21</sup> A 22,000-ton landing helicopter dock (LHD) is also under development in China.<sup>22</sup> The 211m long LHD will be capable of carrying an impressive eight helicopters on deck, with hangar space for four more, or for hovercraft.<sup>23</sup> It will have the ability to transport 1,068 marines.<sup>24</sup> These new ships and floating decks give the PLA the ability to move troops and sustainment supplies in greater quantities. This is example of active defense on the potential requirements of coastal operations, not necessary a power projection platform for deep water objectives, least in the near term.

The PLA Air Force (PLAAF) is attempting to increase its long range transportation and logistics capabilities. China is developing its own the Yun-20 (Y-20), a design similar to both the C-17 and Il-76. The Y-20 has completed its maiden flight on January 25<sup>th</sup> 2013. The Y-20 can take a maximum load of 66 tons and is well suited for long-distance transportation requirements.<sup>25</sup> Military analysts have stated that the Y-20 will not begin its service with the PLAAF for five years.<sup>26</sup> China will need dozens of large transports like the Y-20 or Russian Il-476 in order to participate in UN peacekeeping and humanitarian missions.<sup>27</sup> It appears the Chinese are leveraging their UN peacekeeping missions to improve their mobility and supportability of the PLA. The bottom line is that the strategic goal of self-sustaining by domestic produced aircraft is becoming reality for the PLAAF. The Chinese are very methodical in the desire to be self-sufficient.

The Chinese have invested in their highway system by building 12,649 additional kilometers of highway during 2009-2010, now over a total of 74,000 kilometers.<sup>28</sup> Within mainland China, there is now over 91,000 kilometers of working rail.<sup>29</sup> China continues to expand and modernize its transportation networks. Modern expressways have been the leading beneficiary with total mileage rising from 16,300 kilometers in 2000 to around 70,000 kilometers in 2010.<sup>30</sup> The government has also acknowledged that efficient transport and logistics are key for long-term development; committing huge funds to build airports, new national expressways and improve the railway system.<sup>31</sup> This is expansion of their logistic distribution infrastructure on a grand scale. Both commercial and military efficiencies will benefit. China's distribution systems are becoming better in terms of cost, speed, and efficiency. What was once a vast country is now continuously becoming smaller, in terms of time for the movement of assets. The PLA logistics are a major benefactor of the Chinese commercial infrastructure improvements; moving more with less, cheaper and major improvements of time saved.

## **Information Management**

Information Management (organizations, systems, and technical data), are critical in the modern management of logistics where responsiveness, leanness, and efficiency are derived not only from technology but the skill sets of organizations that manage the total visibility of assets. The PLA has two separate, key management organizations to employ management systems for their comprehensive sustainment requirements. The first is the national-level General Logistics Department (GLD) which oversees “logistics support” and the second is the General Armament (or Equipment) Department (GAD or GED) which has jurisdiction over “armament support.”<sup>32</sup> The General Logistics Department is responsible for the management of supplies, transportation,

medical services as well as personnel.<sup>33</sup> The GLD has been transitioning its logistic capability as well from a total dependant organization to one that has sought support from the Chinese private sector, similar to the way US forces us military contractors as force enablers. The General Armaments Department (GAD) was formed in 1998 as part of a broader set of reforms in order to reduce the PLA role (ownership) in the Chinese economy.<sup>34</sup> GAD would develop a privatized sector for manufacturing and support of a Chinese defense industry. The GAD will have oversight of the PRC's military-industrial complex.<sup>35</sup> The GAD is responsible for weapons development and production. Although many problems remain in the Chinese defense industry, it has continued to move away from the obstinate bureaucratic system of the 1970s and 1980s.<sup>36</sup> Although their military industry remains firmly under state control, 52 structural reforms and technological advancements have made it them more capable of producing modern weapons platforms than would have been thought possible two decades ago.<sup>37</sup> As part of China's reforms, the privatization of PLA owned industrial complex that was old and inefficient has been successful. Although not perfect, in terms of western standards, the Chinese are making improvements at in sustainment oriented concepts, fairly quickly. This includes operational capability too. "Precision Logistics" is the Chinese term used to define an increased dependency on the private sector to manage garrison operations; a move to improve efficiency while reducing manpower cost of large standing force. The Chinese are trying to use a precision logistic system to render rapid, accurate and timely logistic support by using information technology, scientific organization of logistic structures and adopting modern management means.<sup>38</sup> Although logistics modernization is gaining importance, it lags behind fielding of modern combat equipment. Instead, the PLA is leveraging the vast growth in the private sector to reach their goals of logistic improvements. Commercial logistic equipment can easily be dual usage in a

military environment; some but not all equipment in combat logistics require heavy tactical capability. The PLA can take significant advantage of the commercial equipment that is being developed domestically for huge manufacturing, storage, and distributions requirements to get products to market. The skills sets for logisticians of the PLA are very similar to their Chinese counter parts in the civilian sector. It would be prudent to expect the PLA logistics to be shaped by the private sector.

A unified joint logistics PLA, using precision logistics is helping to de-conflict the compartmentalisation among the individual services of the PLA. The General Logistics Department (GLD) pursues modernization of its combat logistics capability to enable sustained operations of the PLA on China's periphery. China desires to have military might with the ability to project a force to in order to meet the PRC's interest. Clearly, China is on the road to reaching this capability in lightning speed with acquisitions from commercial development and or its own military industrial base. The PLA has consistently reduced its manpower since the 1980s with reductions in obsolete equipment and procurement; deployment of modern systems in its army, air force, and navy has increased the overall effectiveness, especially in the context of Local War under Conditions of Informatization military doctrine.<sup>39</sup> The PLA has followed the operational doctrine of '*active defence*' where the legacy logistics system had relative short lines of supply, lacked rapid mobilisation and strategic transport capabilities. It was rigidly compartmentalised into separate service and regional systems, with little integration between them.<sup>40</sup> China has now demonstrated dramatic improvements where the utilization of critical enablers is concerned.<sup>41</sup> The PLA centralized C2 for logistics is allowing the enablers to synthesize logistics, both military and private sector.

China has established a system of National Defense Mobilization Committees (NDMC) extending from Beijing to the county level. The NDMC system is the focal point for the integration of militia and civilian logistics assets to support active duty and reserve PLA operations. The NDMC joins together the government, communist party and military leaders at all levels to oversee the functions of mobilization. Along with local PLA headquarters, NDMC's organize civilian personnel, trucks, ships, and other material required to support PLA operations.

Joint logistics has become a central part of the PLA modernization of joint operations. The PLA defines joint operations as ability to command and control across organizations in an efficient manner to meet complex modern requirements. This was in part also to the lesson of US war in Iraq and Afghanistan. Logistics, more than any other function of the PLA benefits from the Chinese doctrine of Joint Operations. Initially, the ability of China's military to conduct joint logistics appeared highly speculative in 1998 when PLA first established it.<sup>42</sup> China's military modernization is reform and promotion is for joint operations. A Chinese point of view, the transformation of the armed forces is a path to increase co-operation between the services and commercial sector.<sup>43</sup> The PLA is striving to flatten the decision process for military leaders, reducing the bureaucratic process for requisitions of supplies during intense military operations; which may be a conflict or peace related deployment. The Chinese are seeking every opportunity to employ in a joint environment and execute joint logistics.

## **Training Support**

Training Support (military exercises, non-military exercises, and humanitarian operations) is critical for the PLA to learn and develop the requirements for sustainment (logistics) of combat operations. The PLA has not been in a major conflict since the 1979

invasion of Vietnam. Participation in Training Support creates opportunity for coordination of complex logistics for training exercises, peace keeping missions or humanitarian crisis. The PLA, just basing on the number of training exercises participated in, is realizing the importance of experience and lessons learned. The PLA wants to test their ability to project and sustain forces in order to gain experience. The Chinese conducted a bilateral military exercise with Russia in 2007. The Russian location of Chelyabinsk Oblast was the first major exercise were the Chinese show they could create and deploy a composite battle group and test their *Pei Shu* (Pei Shu is the attachment of troops to a subordinate unit).<sup>44</sup> In 2009, the PLA conducted a military exercise call “Stride-2009” which was their largest tactical military exercise and armor deployment since the 1979 Sino-Vietnamese War.<sup>45</sup> Stride-2009 involved over 50,000 personnel as well as rail (high speed and regular) operations and civilian airlines.<sup>46</sup> The Chinese have a strategic objective of projecting their ground forces not only with their vast mainland regions but also to their border peripherals. The logistic capabilities have to be developed and trained in order to meet the challenges of these power projection requirements and the PLA is gaining this understanding with their training exercises. In 2010, China participated in 14 bilateral and multilateral exercises.<sup>47</sup> One of these exercises was Peace Mission 2010, a multilateral, anti-terrorism military of the Shanghai Cooperation Organization (SCO). Peace Mission 2010 was a two week military exercise in Kazakhstan, although small in the size of Soldier participation, the involvement still provides opportunity for logisticians to support long distance. Peace Mission 2012 in Tajikistan again gives opportunity for logistical requirement over cross borders and at long distance. If any local procurement is required, contracting opportunities could be an option. These training support exercises with partnerships such as SCO or a humanitarian crisis are all opportunities to prefect the PLA logistic capability. Moving, feeding, and sustaining military

forces help to identify shorting coming of logistics, thus giving insight to a military force that has not been at war in long period of time.

The PLA has adopted the term “MOOTW,” the acronym for military operations other than war (MOOTW). The PLA’s MOOTW is the “how” in operational requirements of how they (PLA) will plan, train and execute for domestic crisis such as the Wenchuan earthquake. The PLA now understands the importance of quick reaction, flexibility and visibility.<sup>48</sup> The PLAN has been conducting the Gulf of Aden anti-piracy campaign, ensuring the safe and free movement of Chinese flag ships since 2008. The Gulf of Aden anti-piracy mission helped the PLA ability to take peaceful action in the Libyan conflict during February/March 2011, evacuating over 30,000 PRC citizens.<sup>49</sup> Along with character aircraft, four IL-76 long-range transport aircraft were used in the evacuation process.<sup>50</sup> These examples are intended to present an understanding that PLA’s logisticians (planners and operators) are in full speed development of acquiring the skills necessary to sustain and move a military force at a greater distance. Their involvement in any crisis, be it humanitarian, domestic or foreign, allows PLA logisticians to build knowledge, especially in time distance factors.

## **Future Logistic Strengths**

The Vietnam invasion by China in 1979 gave insight in the limitations of the PLA logistics, which were a failure. The PLA was slowed because of logistics. Logistics hindered the PLA ability to seize any kind of initiative. The PRC acknowledged that efficient transport and logistics are key for long-term development within China and it is committing huge funds to build airports, roll out a national expressway network and, expand and upgrade the country’s railway systems.<sup>51</sup> The rapid economic growth of China since 1979 has enabled the country to implement an extensive military modernization program; since the mid-1990s, China’s military

reforms have accelerated and defense spending has steadily increased.<sup>52</sup> In China's 2008 white paper on defense, China projected that it would make major progress in informatization by 2020 and reach modernization of its national defense and armed forces by the middle of the century.<sup>53</sup> China's total defense budget grew from \$22.5 billion to \$89.9 billion between 2000 and 2011. Independent estimates put Chinese spending at a much higher level, with the Stockholm International Peace Research Institute estimating Beijing's 2011 defense budget at \$142.2 billion.<sup>54</sup> China is now only to the U.S. in defense spending. The PLA will now have access to modern national infrastructure that will increase sustainment velocity. Compounding the improved infrastructure with technology of information C2, and it can be expected that the PLA will no longer be bogged down like the Sino-Vietnam War of 1979.

The area of great strides for the PLA logistics will be data management with the stressed importance on information, especially in terms of providing visibility. Their ability to have asset visibility, regardless of where the assets are in the sustainment pipeline will help to solidify their joint logistic strategy. The Chinese are beginning to understand the scope intellectually, the question is, "can they put the modern logistics to practice? Overall China is making progress on their logistic weaknesses.

## **Recommendations**

The U.S. should not remain complacent and let a continued perception that the PLA logistics infrastructure (to include mobilized civilian logistic capacity) cannot provide enough agility to project power across the Taiwan Straits. U.S. analyses must understand that the active defense strategy is a military base (foundation) from which the PLA projection can develop. The fact that the PLA has not been in a recent conflict should not prevent an

understanding that the PLA can capitalize on their current manufacture infrastructure, especially distribution (ground, rail, air, and surface) and port operations. It would be dangerous to assume otherwise.

The U.S. logistical analysis should acknowledge that geographic location and the modernization of the PLA logistics have created a “Dunkirk” capacity that is a PLA strategic advantage. In the near term, the PLA may not have the ability to extend sustainable power beyond their coastal defense but it’s a realistic expectation that they are moving in that direction. To overcome a lack of transparency about the PRC’s strategic goals, a continue analysis of their logistical tail and sustainment doctrine are strong indicators of the PLA near term and future capability.

There are logistics capabilities and capacity which can be analyzed by observing the PLA responses to emergency crisis such as earthquakes, tsunamis, and flooding. The U.S. should continue to offer emergency assistance to the PLA, never letting political friction to prevent humanitarian assistance; our world reputation on crisis aide cannot be dispelled or negatively shaped by anti-American interest. Working with the PLA provides a common interest such as humanitarian responses and will enhance our understanding of each other, certainly on logistical capacity that might promote best practices. Ultimately it is in the U.S. interest to find common logistical operations to maintain presences and reduce friction. The PRC continues to increase its participation in United Nation peacekeeping missions; PLA training opportunities to project and sustain their forces beyond China mainland. The U.S. should continue to encourage China’s role in peacekeeping operations.

## Conclusion

The Chinese PLA since its founding has been on a course to modernize its self and to minimize weakness against what seems an always superior opponent. The People's Republic of China's (PRC) politics are key components of their military modernization. In order to understand the direction the PLA is upgrading, from equipment to doctrine, an appreciation for where the PLA have been is critical for future analysis. China's expanding set of interests and regional contingencies continue to dominate resources and planning.<sup>55</sup> The vast economic growth has forced the Chinese to look beyond their boundaries, outside to ensure the security of their emerging outside interest. Yet expect a military strategy of focused strength for its interior and peripherals. Logistics for the near term will not favor an overall capability for a major power projection of the PLA. China's national interests are critical to their goals of military modernization and this affects how their investment into the PLA will continue. It's important to understand the Chinese current military capability and not to underestimate their ability to innovate in order to mitigate their known weaknesses. US military planners must understand the PLA limited logistics will use technology and the civilian sector to bridge their sustainment gaps. The PLA continues to shape their logistic infrastructure; a continuous process to reduce the sustainment gaps. The U.S. cannot be caught off guard. Most importantly, their logistical capabilities are modernizing at a respectable rate that should not be underestimated either because a lack of what we (U.S.) would call global experience. I would argue that a "Dunkirk" capability already exist for their coastal waters. Understanding and spot lighting their logistics capability and infrastructure will help to US military planners to shape limited resources in the Pacific region to critical points. To know the PLA logistics is to identify their weaknesses.

China historically has broadcast when it's willing to use force if ultimately necessary to resolve a political objective. The U.S. must do the same and broadcast its commitment to allies within the region. The broadcast must be more than speeches and diplomatic visits.

The Chinese standpoints regarding military reform are short term developments driven by a threat-oriented strategy, while long-term developments are driven by a capacity oriented strategy.<sup>56</sup> China wants a competent and expeditionary capable PLA. To acknowledge the PLA logistic gains in capability is to face their regional challenge. U.S. power projection (strength in U.S. logistics sustainment) in support of our South China Sea allies is critical.

Patience and quiet diplomacy with a position of strength is likely the best approach to counter the PLA long term power projection growth and objectives. The position of strength means to acknowledge now, that the PLA's current capability, although limited, is becoming a threat to American interests in the region and will continue to be friction. The PLA's logistics continues to modernize in order to operate in their joint operational environment. The U.S. must implement all approaches of the DIME power in order to meet the growing dragon's peaceful rise.

## Notes

1. Mark A. Ryan, David M. Finkelstein, and Michael A. McDevitt. *Chinese Warfighting: The PLA Experience Since 1949*, New York: M.E. Sharpe, INC., 2003, 25.
2. Ibid., 25
3. *Xinhua, China to speed up full military IT application: Hu.*, 8 November 2012. <http://english.peopledaily.com.cn/90785/8010615.html> (accessed 9 November 2012).
4. Nicholas S. Yarosh and Anthony H. Cordesman, *Chinese Military Modernization and Force A Western Perspective*, Washington D.C.: Center for Strategic and International Studies, 2012, 33.
5. *Military and Security Developments Involving the People's Republic of China 2012*, Washington D.C.: Office of the Secretary of Defense, 2012.
6. David A. Payne, "Chinese Logistics Modernization." *Army Logistician*, July/August 2008. [http://www.almc.army.mil/alog/issues/julaug08/chinese\\_log\\_mod.html](http://www.almc.army.mil/alog/issues/julaug08/chinese_log_mod.html) (accessed October 10, 2012).
7. Major General SB Asthana, SM, VSM. "Transformation of PLA Logistics System : An Analysis," *Journal of the United Service Institution of India*. October-December 2011. <http://www.usiofindia.org/Article/Print/?pub=Journal&pubno=586&ano=856> (accessed December 2, 2012).
8. Ibid.
9. Amy Chang (Primary) and John Dotson (Editor and Contributor), *Indigenous Weapons Development in China's Military Modernization*, Washington D.C.: U.S.-China Economic and Security Review Commission, 2012, 12.
10. Ibid., 12.
11. Ibid.
12. Ashley J. Tellis. "Uphill Challenges: China's Military Modernization." *Strategic Asia 2012-13: China's Military Challenge*, by Travis Tanner and Ashley J. Tellis., 3 - 24. Washington D.C.: The National Bureau of Asian Research, 2012, 9.
13. Susan M. Puska, "Taming the Hydra: Trends in China's Military Logistics Since 2000," *The PLA at Home and Abroad: Assessing the Operational Capabilities of China's Military*, by Roy Kamphausen, David Lai and Andrew Scobell, 553-635. Carlisle: Strategic Studies Institute, 2010, 582.
14. Ibid., 561.
15. Ibid., 582.
16. Richard D. Fisher, *China's Military Modernization: Building for Regional and Global Reach*, Stanford: Stanford Security Studies, 2010, 110.
17. Ibid., 194.
18. Ibid.
19. Ibid.
20. Ibid., 196.
21. Ibid.
22. J. Michael Cole, "New Chinese ship causes alarm." *The Taipei Times*. May 31, 2012. <http://www.taipeitimes.com/News/front/archives/2012/05/31/2003534139> (accessed 10 December 2012).
23. Ibid

24. Ibid.
25. "China's New Freight Plane Extends Military Modernization Program," *Bloomberg.com*, January 26, 2013. <http://www.bloomberg.com/news/2013-01-27/china-s-new-freight-plane-extends-military-modernization-program.html> (accessed February 2, 2013).
26. "PLA Air Force to purchase Russia-designed transport aircraft," *WantChinaTimes.com*. December 9, 2012. <http://www.wantchinatimes.com/news-subclass-cnt.aspx?id=20120910000001&cid=1101> (accessed December 10, 2012).
27. Ibid.,
28. KPMG. "The role of transport and logistics in a changing economy," On the move in China. International Cooperative ("KPMG International"), November 2011, 3.
29. Ibid., 3.
30. Ibid., 14.
31. Ibid., 10.
32. Asthana, "Transformation of PLA Logistics System," October-December 2011.
33. Fisher, *China's Military Modernization*, 21.
34. Ibid., 21.
35. Ibid.
36. Chang and Dotson, *Indigenous Weapons Development*, 13.
37. Ibid., 13.
38. Asthana, "Transformation of PLA Logistics System," October-December 2011.
39. Yarosh and Cordesman, *Chinese Military Modernization*, 11.
40. Asthana, "Transformation of PLA Logistics System," October-December 2011
41. Tellis, "Uphill Challenges," 12.
42. Puska, "Taming the Hydra," 558.
43. Marklund and Neretnieks, "Military Reform: Practice and Lessons," 25.
44. Martin Andrew, "Logistics in the PLA," *Army Sustainment*, 2010: 46-50, 46.
45. Ibid., 47.
46. Ibid.
47. Donna L. I. Welch. "China's Expeditionary Progression," Fort Leavenworth: School of Advanced Military Studies, 2012, 19.
48. Chen Xiaohong, *Strengthening logistics support capability of MOOTW*, July 29, 2009, [http://english.chinamil.com.cn/site2/news-channels/2009-07/10/content\\_1831761.htm](http://english.chinamil.com.cn/site2/news-channels/2009-07/10/content_1831761.htm) (accessed January 26, 2013).
49. J. V. Singh, "PLA: Military Operations Other Than War (MOOTW)," *Air Power*, 2012: 125 – 152, 128.
50. Ibid., 129.
51. KPMG, "The role of transport and logistics" 10.
52. Chang and Dotson, *Indigenous Weapons Development*, 3.
53. Ibid., 3.
54. "China Leads Rise in Asia Military Spending: Study." Agence France-Presse (AFP), Washington, 15 October 2012.
55. *Military and Security Developments Involving the People's Republic of China 2012*, Washington D.C.: Office of the Secretary of Defense, 2012, 21.
56. Klas Marklund and Karlis Neretnieks. *Military Reform: Practice and Lessons*, Stockholm: Institute for Security and Development Policy, 2009, 11.

## Bibliography

Andrew, Martin. "Logistics in the PLA." *Army Sustainment*, 2010: 46-50.

Blasko, Dennis J. *The Chinese Army Today: Tradition and Transformation for the 21st Century (Asian Security Studies)*. New York: Routledge, 2012.

Blumenthal, Dan. "The Power Projection Balance in Asia (Chapter 10)." *American Enterprise Institute for Public Policy Research*. July 31, 2012. [http://www.aei.org/files/2012/08/30-blumenthal-the-power-projection-balance-in-asia\\_15335565654.pdf](http://www.aei.org/files/2012/08/30-blumenthal-the-power-projection-balance-in-asia_15335565654.pdf) (accessed December 2, 2012).

Chang, Amy (Primary), and John Dotson (Editor and Contributor). *Indigenous Weapons Development in China's Military Modernization*. Washington D.C.: U.S.-China Economic and Security Review Commission , 2012.

*China's National Defense in 2010*. White Paper, Beijing: Information Office of the State Council of the People's Republic of China, 2011.

"China's New Freight Plane Extends Military Modernization Program." *Bloomberg.com*, January 26, 2013. <http://www.bloomberg.com/news/2013-01-27/china-s-new-freight-plane-extends-military-modernization-program.html> (accessed February 2, 2013).

*Chinese Military Overview*. n.d. <http://www.sinodefence.com/overview/default.asp> (accessed 2012).

Cole, J. Michael. "New Chinese ship causes alarm." *The Taipei Times*. May 31, 2012. <http://www.taipeitimes.com/News/front/archives/2012/05/31/2003534139> (accessed 12 10, 2012).

Crane, Keith, Roger Cliff , Evan Medeiros, James Mulvenon, and William Overholt. *Modernizing China's Military: Opportunities and Constraints*. Santa Monica: RAND Corporation, 2005.

David L. Shambaugh. *Modernizing China's Military : Progress, Problems, and Prospects*. Berkeley: University of California Press, 2002.

Erickson, Andrew S., interview by GREG CHAFFIN. *China's Navy and Air Force: Advancing Capabilities and Missions* (September 27, 2012).

"Explaining China's Participation in Anti-Piracy Operations in the Gulf of Aden." *Chinese Foreign Policy: International Relations and Strategy* Spring 2009; 17.407 / 17.408. Cambridge, Massachusetts: Department of Political Science, Massachusetts Institute of Technology, May 2009.

Fisher, Richard D. *China's Military Modernization: Building for Regional and Global Reach*. Stanford: Stanford Security Studies, 2010.

France-Presse, Agence. *China Leads Rise In Asia Military Spending: Study* . Washington: Agence France-Presse, 2012.

Grinter, Lawrence E. *The Dragon Awakes China's military Modernization*. Maxwell Air Force Base: USAF Counterproliferation Center, 1999.

Heller, Eric Nathaniel. "The Prospect For Power Projections Of The People's Republic of China." *Defense & Security Analysis*, 2003: 349-367.

Henley, Lonnie. "PLA Logistics And Doctrine Reform, 1999-2009." In *People's Liberation Army After Next*, by Susan M. Puska, 55-77. Carlisle: Strategic Studies Institute , 2000.

JR., Richard D. Fisher. *China's Military Modernization Building For Regional And Global Reach*. Stanford: Stanford University Press, 2008.

Kamphausen, Roy, David Lai, and Andrew Scobell. *The PLA At Home and Abroad: Assessing the Operational Capabilities of China's Military*. Carlisle, PA: Strategic Studies Institute, 2010.

KPMG. "The role of transport and logistics in a changing economy." *On the move in China*. International Cooperative ("KPMG International"), November 2011.

Lewis, John Wilson, and Xue Lital. *Imagined Enemies*. Stanford: Stanford University, 2006.

Major General SB Asthana, SM, VSM. "Transformation of PLA Logistics System : An Analysis." *Journal of the United Service Institution of India*. October-December 2011. <http://www.usiofindia.org/Article/Print/?pub=Journal&pubno=586&ano=856> (accessed December 2, 2012).

Marklund, Klas, and Karlis Neretnieks. *Military Reform: Practice and Lessons*. Stockholm: Institute for Security and Development Policy, 2009.

*Military and Security Developments Involving the People's Republic of China 2012*. Washington D.C.: Office of the Secretary of Defense, 2012.

Payne, David A. "Chinese Logistics Modernization." *Army Logistician*. July/August 2008. [http://www.almc.army.mil/alog/issues/julaug08/chinese\\_log\\_mod.html](http://www.almc.army.mil/alog/issues/julaug08/chinese_log_mod.html) (accessed October 10, 2012).

"PLA Air Force to purchase Russia-designed transport aircraft." *WantChinaTimes.com*. December 9, 2012. <http://www.wantchinatimes.com/news-subclass-cnt.aspx?id=20120910000001&cid=1101> (accessed December 10, 2012).

Pradun, Vitaliy O. "From Bottle Rockets to Lightning Bolts: China's Missle Revolution and PLA Strategy Against U.S. Military Intervention." *Naval War College Review*, 2011: 7-38AA.

Puska, Susan M. "Taming the Hydra: Trends in China's Military Logistics Since 2000." In *The PLA at Home and Abroad: Assessing the Operational Capabilities of China's Military*, by Roy Kamphausen, David Lai and Andrew Scobell, 553-635. Carlisle: Strategic Studies Institute, 2010.

Ryan, Mark A., David M. Finkelstein, and Michael A. McDevitt. *Chinese Warfighting The PLA Experience Since 1949*. New York: M.E. Sharpe, INC. , 2003.

Saunders, Phillip C., Christopher D. Yung, Michael Swaine, and Andrew Nien-Dzu Yang, . *The Chinese Navy: Expanding Capabilities, Evolving Roles*. Washington D.C., National Defense University Press For The Center For The Study of Chinese Military Affairs, 2011.

Shambaugh, David. "China's Military Modernization: Making Steady and Surprising Progress." In *Military Modernization in an Era of Uncertainty*, by Ashley J. Tellis and Michael Wills, 67-103. Seattle: The National Bureau Of Asian Research, 2005 -2006.

Singh, J.V. "PLA: Military Operations Other Than War (MOOTW)." *Air Power*, 2012: 125 - 152.

Tellis, Ashley J. "Uphill Challenges: China's Military Modernization." In *Strategic Asia 2012-13: China's Military Challenge*, by Travis Tanner and Ashley J. Tellis, 3 - 24. Washington D.C.: The National Bureau of Asian Research , 2012.

"The dragon's new teeth A rare look inside the world's biggest military expansion." *The Economist*. April 6, 2012. <http://www.economist.com/node/21552193> (accessed November 30, 2012).

Welch, Donna L. I. *China's Expeditionary Progression*. Fort Leavenworth: School of Advanced Military Studies;, 2012.

Xiaohong, Chen. *Strengthening Logistics Support Capability of MOOTW*. July 29, 2009.  
[http://english.chinamil.com.cn/site2/news-channels/2009-07/10/content\\_1831761.htm](http://english.chinamil.com.cn/site2/news-channels/2009-07/10/content_1831761.htm)  
(accessed January 26, 2013).

Xinhua. *China to speed up full military IT application: Hu*. 11 8, 2012.  
<http://english.peopledaily.com.cn/90785/8010615.html> (accessed 11 9, 2012).

Yarosh, Nicholas S., and Anthony H. Cordesman. *Chinese Military Modernization and Force A Western Perspective*. Washington D.C.: Center For Strategic and International Studies, 2012.

Zhang, Tiejun. "Chinese Strategic Culture: Traditional and Present Features." *Comparative Strategy*, 2002; 21:2: 73 - 90.

